

Claim(s)

1. A method for noise variance estimation of a detected signal, the method comprising:
 - 5 receiving a signal and producing therefrom in a detector a detected signal; . . .
 - producing from the received signal a first noise variance signal representative of noise variance in the received signal; and
 - 10 producing from the detected signal and the first noise variance signal a second noise variance signal representative of noise variance estimation in the received signal.
- 15 2. The method of claim 1 wherein the step of producing the second noise variance signal comprises applying to the first noise variance signal a function substantially equal to the detector's transfer function.
- 20 3. The method of claim 1, 2 or 3 wherein the step of producing the first noise variance signal comprises deriving the first noise variance signal from a midamble portion of the received signal.
- 25 4. The method of claim 1, 2 or 3 further comprising:
 - producing from the second noise variance signal and an estimate of total power at the detector output an SIR signal representative of SIR in the
 - received signal.

5. The method of any one of claims 1-4 wherein the detector is a CDMA multi-user detector.
6. The method of any one of claims 1-4 wherein the
5 detector is a CDMA single-user detector.
7. The method of any one of claims 1-4 wherein the detector comprises a CDMA RAKE receiver.
- 10 8. The method of any one of claims 1-7 wherein the received signal is a wireless signal.
9. The method of claim 8 wherein the wireless signal is a UMTS air interface signal.
- 15 10. An arrangement for noise variance estimation of a detected signal, the arrangement comprising:
a detector for receiving a signal and detecting therein a detected signal;
20 first noise variance means for producing from the received signal a first noise variance signal representative of noise variance in the received signal;
second noise variance means for producing from the
25 detected signal and the first noise variance signal a second noise variance signal representative of noise variance estimation in the received signal.
- 30 11. The arrangement of claim 10 wherein the second noise variance means is arranged to apply to the first noise

variance signal a function substantially equal to the detector's transfer function to produce the second noise variance signal.

5 12. The arrangement of claim 10 or 11 wherein the first noise variance means is arranged to derive the first noise variance signal from a midamble portion of the received signal.

10 13. The arrangement of claim 10, 11 or 12 further comprising:

SIR estimation means for producing from second noise variance signal and an estimate of total power at the detector output an SIR signal representative of SIR in the received signal.

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14. The arrangement of any one of claims 10-13 wherein the detector is a CDMA multi-user detector.

20 15. The arrangement of any one of claims 10-13 wherein the detector is a CDMA single-user detector.

16. The arrangement of any one of claims 10-13 wherein the detector comprises a CDMA RAKE receiver.

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17. The arrangement of any one of claims 10-16 wherein the received signal is a wireless signal.

18. The arrangement of claim 17 wherein the wireless signal is a UMTS air interface signal.

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19. A communication receiver comprising the arrangement of any one of claims 10 to 17.

20. User equipment for use in a wireless communication system, the user equipment comprising the communication receiver of claim 19.

21. A base station for use in a wireless communication system, the base station comprising the communication receiver of claim 19.

22. A computer program element comprising computer program means for performing the method of any one of claims 1 to 9.

23. An integrated circuit comprising the arrangement of any one of claims 10 to 18.

24. A method for noise variance estimation substantially as hereinbefore described with reference to the accompanying drawings.

25. An arrangement for noise variance estimation substantially as hereinbefore described with reference to the accompanying drawings.